

REMARKS

In the advisory action mailed March 30, 2007, Examiner advised Applicant that the response filed March 19, 2007 raised new issues and would not be considered. Applicant submits herewith a Request for Continued Examination and requests examination and allowance of the pending claims as amended by this paper.

Claims 70-100 are pending in the present application. In the Office Action dated November 16, 2006, claims 70, 71, 73, 85, 86, 90, and 91 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,647,989 to Hayashi et al. ("Hayashi"). Claims 70, 71, 85, 86, and 90 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,106,728 to Iida et al. ("Iida"). Claims 72, 75, and 76 were rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Iida. Claims 73, 74, 77-84, 87-89 and 91-100 were rejected under 35 U.S.C. 103(a) as being unpatentable over Iida in view of Hiyashi. Claims 72, 74-88 and 92-100 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Iida.

The Applicant would like to thank the Examiner for the interview conducted on February 21, 2007. The Applicant and Examiner discussed the fact that, in one embodiment of the application, the apparatus has two separate fresh slurry solutions which are filtered separately and then combined. The Examiner agreed that so long as the claims describe these limitations, it would likely overcome the prior art of record.

The embodiments disclosed in the present application will now be discussed in comparison to the cited references. Of course, the discussion of the disclosed embodiments, and the discussion of the differences between the disclosed embodiments and the cited references, does not define the scope or interpretation of any of the claims. Instead, such discussed differences merely help the Examiner appreciate important claim distinctions discussed thereafter.

In one embodiment of the present invention, two separate slurry solutions that have not been used to planarize a microelectronic substrate (i.e. fresh slurry) are maintained by separate supplies and feed lines. In addition, each of the slurry solutions is filtered while the solutions are separate. After the filter step, the separate solutions are combined in a combination feed line.

The Examiner cited the Hayashi reference. The Hayashi reference discloses a planarizing apparatus including a slurry manufacturing assembly for recycling used planarizing solution. The Examiner contends that the Hayashi reference discloses a slurry manufacturing assembly including a first feed line (line 7), a second feed line (line 11), a first removal unit (filter 1), a combination feed line (exiting tank 4), and a slurry dispenser 17. Figure 1 shows a filtering process for spent (recycled) slurry. It shows the recycled slurry in line 7 being filtered by filter 1, then placed into an intermediate storage 4, where the same recycled slurry is filtered a second time by filter 2, and again the recycled slurry is placed back into intermediate storage 4 by line 11. Therefore, the recycled slurry is not only not fresh, but also, the two solutions are not separate, filtered separately and then combined. The slurry solution in the first feed line (line 7) is the same slurry solution in the second feed line (line 11). Therefore, the Hayashi reference does not disclose or fairly suggest the first solution being separate from the second solution, filtering the solutions separately, and combining the filtered solutions.

The Examiner cited the Iida reference. The Iida reference discloses a planarizing apparatus including a slurry manufacturing assembly used for recycling used planarizing solution. The Examiner contends that Figure 1 of the Iida reference discloses a slurry manufacturing assembly including a first feed line (Fp line), a second feed line 54, a first removal unit 4, a combination feed line (S leaving tank 52), and a slurry dispenser 301. Similar to the Hayashi reference, the Iida reference discloses filtering a recycled slurry. In addition, the second feed line 54 does not contain a solution with abrasive particles. Rather, second feed line 54 is used to add either alkaline agents or acidic agents. *Iida Specification*, column 6, lines 4-17. Even assuming the second feed line contains a solution with abrasive particles, the solution is not filtered before combining it with the first filtered solution. Rather, the Iida reference teaches away from filtering two individual solutions separately and then combining the solutions because it teaches filtering the solution after the two solutions have been combined using filter 7. *Id.* at column 6, lines 37-42 and Figure 1. Therefore, the Iida reference does not disclose or fairly suggest two separate solutions being filtered separately and then combining the filtered solutions.

Turning now to the claims, the patentably distinct differences between the cited references and the claim language will be specifically pointed out.

With respect to claim 70, the cited references, whether alone or in combination, fail to teach or suggest, in combination with the other limitations of the claim, a planarizing

apparatus including “a first removal unit coupled to the first feed line ... a second removal unit coupled to the second feed line ... a combination feed line in fluid communication with the first removal unit to receive a filtered flow of the first solution from the first removal unit, the combination feed line further being in fluid communication with the second removal unit to receive a flow of the second solution from the second removal unit that is separate from the filtered flow of the first solution; and at least one of a mixer configured to mix a combined flow of the first and second solutions received from the combination feed line, the mixer including a conduit through which the combined flow is passed to form a turbulent zone; and a slurry dispenser coupled to at least one of the mixer and conduit to dispense an abrasive slurry comprising the first and second solutions, the dispenser being positionable over the table to dispense the slurry from the combination line onto the planarizing pad.” (emphasis added)

With respect to claim 90, the cited references, whether alone or in combination, fail to teach or suggest, in combination with the other limitations of the claim, a planarizing apparatus including “a first removal unit coupled to the first feed line, the first removal unit configured to selectively remove a first type of selected abrasive particles from the first abrasive particles; a second removal unit coupled to the second feed line, the second removal unit configured to selectively remove a second type of selected abrasive particles from the second abrasive particles; and a combination feed line in fluid communication with the first removal unit to receive a filtered flow of the first solution from the first removal unit, the combination feed line further being in fluid communication with the second removal unit to receive a flow of the second solution from the second removal unit that is separate from the filtered flow of the first solution; at least one of a mixer configured to mix a combined flow of the first and second solutions received from the combination feed line and a conduit through which the combined flow is passed to form a turbulent zone; and a slurry dispenser coupled to at least one of the mixer and the conduit to dispense the combined flow, the dispenser being positionable over the table to dispense the slurry from the combination line onto the planarizing pad.” (emphasis added).

Claims depending from claims 70 and 90 are also allowable as dependent from an allowable base claim and further in view of the additional limitations recited in the dependent claims.

All of the claims remaining in the application are clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

DORSEY & WHITNEY LLP



Michael G. Pate
Registration No. 53,439
Telephone No. (206) 903-2398

MPG:sp

Enclosures:

Postcard
Check
Fee Transmittal Sheet (+ copy)

DORSEY & WHITNEY LLP
1420 Fifth Avenue, Suite 3400
Seattle, Washington 98101-4010
(206) 903-8800 (telephone)
(206) 903-8820 (fax)

h:\ip\clients\micron technology\100\500155.07\500155.07 amend aa 033007.doc